

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-18 (canceled)

Claim 19 (new): Grounding circuitry suitable for use with ECG signal acquisition conductors providing ECG signals acquired from a patient to an electrocardiograph, said conductors including a first set of ECG signal conductors for connection to the patient and suitable for carrying out ECG signal acquisition from the patient of a given number of leads, said
5 conductors further including a second set of ECG signal conductors for connection to the patient, said second set of conductors being suitable for carrying out, with said first set of conductors, ECG signal acquisition from the patient of a greater number of leads than said given number of leads, said circuitry comprising:

10 switch means suitable for connection to the ECG signal conductors of the second set of conductors and having a first condition that connects the conductors of the second set to an output for providing ECG signal acquisition of said greater number of leads for the electrocardiograph, said switch means having a second condition; and

15 a grounding circuit, said grounding circuit having means with a first terminal connected to a ground and a second terminal, said switch means, when in the second condition, disconnecting conductors of the second set from the output and connecting the conductors of the second set to said second terminal of said grounding circuit means, said grounding circuit means creating a low impedance path to the ground for the conductors of the second set in the absence of a signal in the conductors for holding the conductors of the second set at the potential of the ground, said grounding circuit means creating a high impedance path for current appearing in a
20 conductor of the second set should it be connected to the patient with said switching means in said second condition, thereby to limit the amount of current to which the patient is exposed.

Claim 20 (new): The grounding circuitry of claim 19 wherein said grounding circuit means comprises an operational amplifier interposed between said terminals.

Claim 21 (new): The grounding circuitry of claim 19 wherein said grounding circuit means includes means for sensing an operating condition of the grounding circuit means when creating the high impedance path for determining that an electrode of the second set is connected to the patient.

Claim 22 (new): The grounding circuitry of claim 21 wherein said sensing means comprises voltage comparison means.

Claim 23 (new): The grounding circuitry of claim 21 wherein said sensing means causes said switching means to switch from said second condition to said first condition when it is determined that an electrode of the second set is connected to the patient.

Claim 24 (new): The grounding circuitry of claim 19 wherein said grounding circuitry is further described as suitable for use with a first set of ECG signal acquisition conductors having shields and wherein said switch means is further defined as suitable for connecting the shields of the first set of ECG signal acquisition conductors to the relative ground in the absence of a
5 connection to the ECG signal conductors of the second set of conductors when said switch means is in said second condition.

Claim 25 (new): The grounding circuitry of claim 19 wherein said switch means is connected to a collection connector suitable for connection to the conductors of said first and second sets.

Claim 26 (new): The grounding circuitry of claim 24 wherein said switch means is connected to a collection connector having connection suitable for the conductors of said first set and connectors suitable for connection either to the shields of the conductors of said first set or to the conductors of said second set.

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Claim 27 (new): The grounding circuitry of claim 19 further defined as suitable for use with a first set of ECG signal conductors suitable for carrying out 5-lead ECG signal acquisition and a second set of ECG signal conductors suitable for carrying out 12-lead ECG signal acquisition.